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Validation of group decisions: Why and when perceived group heterogeneity is relevant

La validation des décisions de groupe: pourquoi et quand l'hétérogénéité perçue du groupe est-elle un critère pertinent ?

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Abstract

Based on the attributional reformulation of social comparison theory (Goethals & Darley, 1977) and on previous studies (e.g., Lopes, Vala, & Garcia-Marques, 2007), the present research extends our understanding of the role of group consensus and heterogeneity on attribution of validity to group opinions and decisions. One experimental study tested the hypothesis that the effect of group heterogeneity on the validity attributed to group decisions is mediated by the perceived group participation when group consensus is high, but not when group consensus is low. The results support this mediated moderation hypothesis and are discussed in the light of the epis-

Résumé

Appuyée sur la reformulation attributionnelle de la théorie de la comparaison sociale (Goethals & Darley, 1977) et sur des études précédentes (e.g., Lopes, Vala, & Garcia-Marques, 2007), cette recherche approfondit notre compréhension du rôle du consensus et de l'hétérogénéité d'un groupe sur l'attribution de validité portée sur ses opinions et décisions. Une étude expérimentale teste l'hypothèse selon laquelle lorsque le consensus du groupe est fort, mais non quand il est faible, l'effet de l'hétérogénéité du groupe sur la validité attribuée à ses décisions est médiatisé par la perception qu'il y a eu une bonne participation des membres du

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Mots-clés
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temic value of heterogeneity and consensus information in group decisions and opinions.

groupe. Les résultats confirment cette hypothèse de modération médiatisée et sont discutés à la lumière de la valeur épistémique de l'information sur l'hétérogénéité et sur le consensus dans les décisions et les opinions de groupe.

In everyday life, groups (i.e., juries, staff, work teams, committees) are often called to make decisions, judgments, or to form opinions that are very important to regulate people's behaviour and the ways they relate to other people and to society in general. These outcomes are normally achieved through discussion, participation, and choice between alternatives (Moscovici & Doise, 1992). To know that group decisions and opinions are valid is very important not only to people involved in the decision process, but also to people outside the decision groups who are affected by these decisions in real life. In the present article, our aim was to examine how individuals who are not members of a group and did not participate in a group discussion, validate group decisions regarding questions relevant to their own lives. This research question was framed within the framework of common sense validation of everyday knowledge (Levine & Higgins, 2001; Lopes, Vala, & Garcia-Marques, 2007) and common sense epistemology (Kruglanski, 1989). Both perspectives assume that people have epistemic needs and share procedures and rules to produce a valid and truthful view of reality.

Individuals use distinct rules, procedures, and information cues to determine the validity of everyday knowledge, decisions, judgments, or opinions (cf. Festinger, 1954). For example, Leyens, Yzerbyt and Schadron (1992; see also Caetano, Vala, & Leyens, 2001) propose that a norm of social judgeability defines what is and what is not a valid judgment. The application of this norm renders a judgement valid only when an individual feels that he/she has the necessary information to judge. Our own investigations have been supporting the argument that individuals use two main information cues within this process: group consensus and the heterogeneity/homogeneity of group members. Group

consensus has been well studied in social psychology (e.g., Festinger, 1954; Miller, Gross, & Holtz, 1991). Heterogeneity is also discussed in the literature (Goethals & Darley, 1977; Wilder, 1978), but empirical evidence regarding the role of this cue has only been gathered recently (Lopes et al., 2007; Vala, Garcia-Marques, Gouveia-Pereira, & Lopes, 1998).

Bridging relevant literatures and empirical evidence, we present new results concerning the impact of group heterogeneity on the validation of group decisions in conditions of high and low group consensus. More specifically, we examine whether the impact of group heterogeneity is mediated through the perceived degree of group members' participation, when group consensus is presented as being high versus low.

The use of consensus and heterogeneity information on knowledge validation

Several empirical studies show that the greater the perceived consensus, the more group position seems valid, credible, or trustful (e.g., Miller et al., 1991). Indeed, research on the role of consensus on knowledge validation points to the fact that a high consensus supporting a given position creates the expectancy that it is more valid than one supported by a low consensus (Bohner, Dykema-Englade, Tindale, & Meisenhelder, 2008).

Heterogeneity information also received attention in the literature especially at a theoretical level (e.g., Goethals & Darley, 1977; Goethals & Klein, 2000). However, the empirical evidence documenting its impact on knowledge validity is scarce. Although indirect, one exception is a study by Goethals, Allison, and Frost (1979) showing that undergraduates endorsing a specific opinion tend to see others endorsing the same opinion as heterogeneous rather than homogeneous (the "diversity effect").

More recently, the direct link between heterogeneity and validity of everyday knowledge has been tested both correlationally (Vala et al., 1998) and experimentally (Lopes et al., 2007). In particular, a series of experiments conducted by Lopes et al. (2007) showed that participants attributed greater validity to positions held by

heterogeneous groups than to those held by homogeneous ones.

Apart from the impact of consensus and heterogeneity *per se*, the interplay between these two information cues might be worth examining. In fact, and assuming that consensus is enough proof of knowledge validity, common sense might perceive it as generated by the uniformity and homogeneity of those sustaining it (Festinger, 1954). However, as argued by Galam and Moscovici (1991; see also Moscovici & Doise, 1992), reaching consensus is a not a single phenomenon but a group of phenomena. As such, consensus might be established through controversy and debate by dissimilar or heterogeneous individuals initially holding different points of view.

In fact, the perception of heterogeneity of those sustaining a given consensual positioning lead Goethals and Darley (1977; see also Goethals & Klein, 2000) to argue for the attribution of validity to group decisions to be perceived as more entity-based rather than person-based, i.e., as grounded in reality itself rather than in peoples' own views about reality. This may be the case because dissimilar or heterogeneous individuals share the same (i.e., consensual) view of reality.

In Lopes et al. (2007) study, the authors experimentally provided evidence for this interplay. In fact, the use of heterogeneity information was different for conditions of high and low consensus. More precisely, while knowing that a group was heterogeneous and consensual lead participants to attribute greater validity to the group opinion, a heterogeneous group with low consensus lowered participants' attributed levels of validity.

Heterogeneity, consensus, and participation

Independently of the interest in the theoretical explanation proposed by Goethals and Darley (1977; Goethals & Klein, 2000), in situations where third-party individuals have to evaluate the validity of group decisions what makes them rely on group heterogeneity information? One possible answer resides in the perception of the group functioning style. Information regarding

group heterogeneity might lead individuals to infer a participative functioning style, associated to the perception of debate, controversy, and discussion among group members (Drozda-Senkowska & Oberlé, 2000; Moscovici & Doise, 1992). In turn, this should lead them to attribute greater validity to the decisions of heterogeneous (rather than homogeneous) group. A recent set of studies carried out by Vala, Drozda-Senkowska, Oberlé, Lopes, and Silva (2011) confirmed this hypothesis by showing that perceived group participation mediated the effect of group heterogeneity information on validation of group decisions.

Nevertheless, these studies do not allow us to fully understand the role of consensus within this process, since consensus was controlled across experimental conditions. But, as we argued previously, high consensus also creates the expectancy that a given position is more valid than one supported by a low consensus. Furthermore, previous research shows that decisions taken with a high consensus are associated with more thorough discussion and participation (Hastie, Penrod, & Pennington, 1983). Following this line of reasoning, we can argue that groups achieving greater consensus supporting their decisions might be perceived as more participative, once they exchange more information and spend more time discussing the pros and cons of various options (cf., Stasson, Kameda, Parks, Zimmerman, & Davis, 1991) compared to groups achieving low consensus. This should be especially true in the case of heterogeneous groups as they are perceived as more participatory than homogeneous groups (Vala et al., 2011).

This leads us to argue that the mediation effect of group participation on the impact of perceived heterogeneity on validation of group decisions might be moderated by consensus information. Accordingly, we present a new study testing the following moderated mediation hypothesis: in conditions of high consensus, we expected the effect of perceived heterogeneity on group perceived validity to be mediated by perceived participation; in the low consensus condition such mediation was not expected.

Method

Participants and Design

A total of 233 nursing undergraduates participated in this study. Participants mean age was 20.82 years (*SD* = 3.30), and 82.3% were female. Participants were randomly assigned to a 2 (group variability: homogeneous vs. heterogeneous) x 2 (consensus: low consensus vs. high consensus) between participants design.

Procedure

Participants were invited to take part in a study concerning opinions regarding different nursing themes (controversial topics for the population from which our sample was drawn; e.g., palliative care, euthanasia). A questionnaire with instructions was distributed to participants. They were informed that different groups had been formed to produce a position document to be distributed to other students. They also learned that researchers were interested in collecting their opinions regarding these groups. One such group composed of eight members was presented ("randomly" selected from a pool of groups and presented as group "G11") alongside with information about the heterogeneity vs. homogeneity of its members and the degree of consensus (high vs. low) reached regarding the position document. Based on this information, participants were asked to evaluate the degree of participation within the group and the validity attributed to the document produced. At the end of the questionnaire, they completed manipulation check questions and demographics. Finally, participants were debriefed and thanked.

Note that the content of the position document was never shown to participants. Instead, group composition (i.e., heterogeneity/homogeneity of its members) and consensus reached by the group regarding the issue were clearly described. These strategies allowed us to direct the attention of participants to the factors of interest rather than on the issue itself.

Independent Variables

Perceived group variability

Following Lopes et al. (2007), group heterogeneity was manipulated by depicting group members as similar or dissimilar in terms of their personality traits. This manipulation is grounded in the fact that personality traits are typically used by lay people to describe individuals and groups (Leyens, 1983). In the heterogeneous group condition, participants were told "Through the application of a psychological test and from the score that each group member had on this test, we were able to say that the eight persons in this group are very different from each other in terms of their personality traits, i.e., this group is very heterogeneous regarding the personality of its members". In the homogeneous group condition, participants were told that "…the eight persons in this group are very similar to each other in terms of their personality traits, i.e., this group is very homogeneous regarding the personality of its members."

Perceived consensus

Following Lopes et al. (2007), participants were told that the decision taken by the group was approved with a high versus low level of consensus. In the high consensus condition, participants read "Decisions made by the group until this moment have reached a high consensus, i.e., in some cases 80% of group members and in other cases 85% of group members agree with the group's opinions about the issue under discussion." In the low consensus condition, participants read "Decisions made until this moment have only reached a low consensus, i.e., in some cases 50% of the group members and in other cases 55% of the group members agree with the group's opinions about the issue under discussion."

Dependent variables

Perceived validity

Participants evaluated the validity of the document produced by the group using a 5-item scale adapted from Vala et al. (2011). Response options ranged from 1 (not at all) to 6 (completely). A sample item was "This group will produce a good document for

diffusion regarding the prescription of pills by nurses / palliative cares / euthanasia." A principal components analysis (PCA) extracted one component explaining 61.05% of total variance (*KMO* = .92). An index of perceived validity was computed combining all items (α = .92).

Perceived group participation

Perception of group participation was assessed with a 6-item scale adapted from Vala et al. (2011). Response options ranged from 1 (total agreement) to 6 (total disagreement). A sample item was "The composition of this group will facilitate the participation of each one." A PCA extracted one component explaining 48.25% of total variance (*KMO* = .80). An index of group participation was computed combining all items (α = .78).

Results

Manipulation check

Participants were asked to answer two questions related to group members' similarity on a 6-point scale ranging from 1 (not similar at all) to 6 (very similar). An index was computed combining these two items since they significantly correlated with each other, r (231) = .39, $p < .001$. A 2 (group heterogeneity: heterogeneity vs. homogeneity) x 2 (consensus: high vs. low) ANOVA using the index of group members' similarity as dependent variable, revealed a significant main effect of the first factor, $F(1, 230) = 232.70$, $p < .000$, $\eta_p^2 = .51$. As expected, in the homogeneous group condition, group members were perceived as more similar to each other (M = 4.39, SD = 0.84) than in the heterogeneous group condition (M = 2.87, SD = 0.73). In addition, a main effect of consensus was obtained, $F(1, 230) = 13.97$, $p < .000$, $\eta_p^2 = .06$, showing that participants perceived group members as more similar under high consensus (M = 3.79, SD = 1.12) than under low consensus (M = 3.47, SD = 1.05). Although the latter effect was not expected, the pattern obtained confirmed the effectiveness of the group heterogeneity manipulation.

Testing the moderated mediation hypothesis

Following the moderated mediation approach suggested by Muller, Judd, and Yzerbyt (2005), model 1 (see Table 1) analyzed the impact of group heterogeneity and group consensus on the perceived validity of the document. Results showed that group heterogeneity (GH; recoded -1 for homogeneity, and +1 for heterogeneity) significantly predicted the perceived validity of the group position, $\beta = .15$, $t(226) = 2.37$, $p < .05$. Participants in the heterogeneity condition attributed greater validity to the document ($M = 4.04$, $SD = 0.81$) than participants in the homogeneity condition ($M = 3.79$, $SD = 0.83$).

Predictors	Model 1 Validity	Model 2 Participation	Model 3 Validity
Group heterogeneity	.15*	.58***	-.06
Group consensus	.21**	-.15*	.19*
Group heterogeneity x group consensus	.04	.12*	-.01
Group participation			.40***
Group heterogeneity x group participation			-.05
Group consensus x group participation			.00
Group heterogeneity x group consensus x group participation			.15

Note: values are standardized regression coefficients; * $p < .05$; ** $p < .005$; *** $p < .0001$

TABLE 1:
Effects of heterogeneity and consensus and test of the mediating role of group participation .

A significant effect of group consensus (GC; recoded -1 for low consensus, and +1 for high consensus) was also obtained, $\beta = .20$, $t(226) = 3.14$, $p < .01$, evidencing that the group with higher consensus was perceived as having produced a more valid document ($M = 4.11$, $SD = 0.75$) than the group with lower consensus ($M = 3.76$, $SD = 0.85$). The interaction effect between GH and GC was not significant, $\beta = .14$, $t(226) = .63$, $p = .53$.

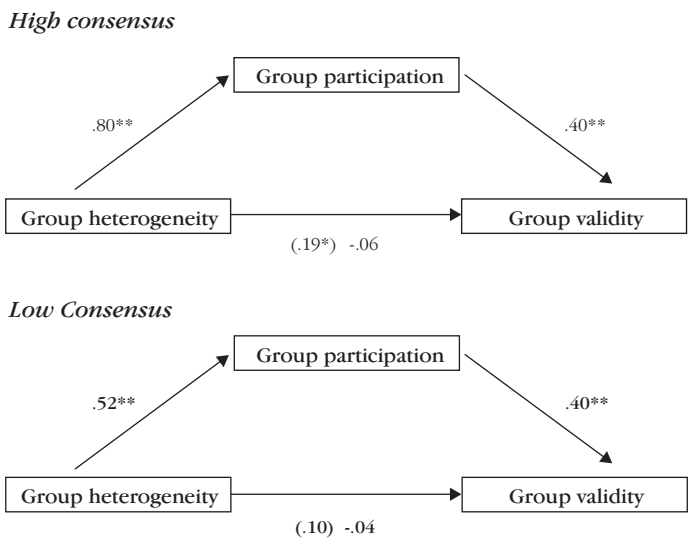
Model 2 tested the impact of GH and GC on group participation (GP). Significant effects of GC and GH are reported in Table 1. Heterogeneity positively predicted GP, $\beta = .58$, $t(228) = 10.71$, $p < .000$, meaning that the heterogeneous group induced higher perception of group participation ($M = 4.40$, $SD = 0.93$) than the homogeneous group ($M = 3.33$, $SD = .63$). In contrast, GC negatively predicted GP, $\beta = -.15$, $t(228) = -2.741$, $p < .05$), evidencing

that the perceived participation was lower in the higher consensus condition (M = 3.75, SD = 1.00) than in the lower consensus condition (M = 3.99, SD = 0.90).

Model 2 also revealed a significant interaction between GH and GC on GP, β = .12, $t(228) = 2.33$, $p < .02$. Single slopes analyses showed that the effect of GH on GP was stronger when the group was presented as having a high consensus (β = .80, $p < .001$) than when the consensus was low (β = .50, $p < .001$).

Finally, model 3 examined the effects of GH, GC, GP and the interactions between these variables on perception of validity. Validity was significantly predicted by GP, β = .40, $t(222) = 4.93$, $p < .000$, and GC, β = .19, $t(222) = 2.50$, $p < .01$. The remaining predictors or interactions were non-significant: GH x GC, β = -.01, $t(222) = -.12$, $p = .91$; GH x GP, β = -.05, $t(222) = -.69$, $p = .49$; GC x GP, β = .001, $t(222) = .01$, $p = .99$; GH x GC x GP, β = -.15, $t(222) = 1.80$, $p = .07$. Consistent with the group participation mediation hypothesis, the effect of GH on validity was no longer significant (β = -.06, $t(222) = .48$, $p = .61$; ; Sobel test, $z = 4.48$, $p < .001$).

Figure 1: Perceived validity of the group position: Test of the moderated mediation hypothesis.



* $p < .01$; ** $p < .0001$ (partial effects in brackets when both predictor and mediator were entered in the equation)

Furthermore, and since the interaction between consensus and heterogeneity on group participation was significant (see Table 1, model 2), we decomposed the mediating effect of GP on the relationship between GH and validity for each condition of GC (see Figure 1). The mediating role of perceived GP was significant in the high consensus condition ($z = 2.98$, $p < .01$), but it was not the case in the low consensus condition.

Discussion and Conclusions

The present research documents an intriguing phenomenon: even when we do not know the content of a decision, we are capable of evaluating its validity. How is this possible? As Moscovici and Doise posited (1992), individuals are motivated to participate in social debates, and to give their opinion about day-to-day matters that are important to them. When information about the content of decisions or opinions is unavailable, individuals look for information regarding the way these decisions or opinions were formed in order to evaluate their validity. In this sense, they look for cues that seem to give access to the quality of the process of collective decision-making or opinion formation.

Thus, in the present article, we provide empirical support for the use of information about perceived group heterogeneity composition and group consensus in the process of attributing validity to group decisions. The results add up to the findings obtained in our previous studies (Lopes et al., 2007; Vala et al., 2011), providing evidence for the replication of this phenomenon in different contexts and using different experimental paradigms (Kahneman, 2012).

More importantly, the present research advance our understanding of the psychological mechanisms by which the perception of group heterogeneity leads third-party individuals to infer that a group decision or opinion has validity. Indeed, we tested the role of group consensus as a moderator of the mediating role of group participation on the effects of group heterogeneity on the perceived validity of group position. More precisely, we unveiled that only under high consensus, group

participation mediate the effect of group heterogeneity on validity attribution. In low consensus conditions, heterogeneity looses its participative nature and is perceived as detrimental for consensus achievement and, consequently, for the validity of group position. In this sense, heterogeneity is not a virtue *per se*, but needs consensus to be construed as a virtue.

These results further support the articulation between group heterogeneity and group participation, introducing the moderation of group consensus and further explaining under which conditions group's outputs are perceived as more valid and more easily implemented in real-life situations. In fact, these results underline once more the importance of perceived group participation in everyday life, and that it is triggered by information regarding the internal composition of groups, specifically the perceived heterogeneity of its members.

From a psychosocial standpoint, these results sustain the interest of taking into account factors that, independently of the content of a decision or opinion, connect a third-party observer to the source of a decision or opinion. In line with this perspective, research by Schadron and Yzerbyt (1991) suggests that there are two dimensions that should be analyzed in a judgement situation: the information that is used to produce the judgement, and the elements that define the situation, i.e., the meta-information that grounds the evidence of the judgement. In our experimental paradigm, participants were able to evaluate the validity of the position document since meta-information about the group that produced this paper was made available: the heterogeneity vs. homogeneity of group members, their degree of participation in the discussion of the opinion formed, and the degree of opinion consensus.

Although our study presents results showing that group composition can be optimized in order to increase, among third-party observers, the perceived validity of the produced outputs, our studies were scenario based. Future research should test the ways in which heterogeneous groups' outputs are indeed perceived as more valid and, consequently, more credibly implemented in a real-life situations, than outputs produced by homogeneous groups. Future studies should also focus on the

relative importance of heterogeneity and consensus information on the validation of group outputs under conditions of differential epistemic motivations. For example, in conditions of high need for cognitive closure (Kruglanski, 2004) individuals might make greater use of group consensus information and attribute less importance to heterogeneity cues. In contrast, under conditions of low need for cognitive closure, individuals might pay more attention to heterogeneity information and use it in conjunction with group consensus cues.

References

Bohner, G., Dykema-Engblade, A., Tindale, R. S., & Meisenhelder, H. (2008). Framing of majority / minority source information and persuasion: When and how "consensus implies correctness. *Social Psychology, 39*, 108-116. Doi: 10.1027/1864-9335.39.2.108

Caetano, A., Vala, J., & Leyens, J.-Ph. (2001). Judgeability in person perception: The confidence of leaders. *Group Dynamics: Theory, Research, and Practice, 5*, 102-110. Doi: 10.1037/1089-2699.5.2.102

Drozda-Senkowska, E., & Oberlé, D. (2000). Raisonner en groupe: Questions sur les effets de la discussion et du consensus. In J. L. Beauvois, R. V. Joule, & J. M. Monteil (Eds), *Perspectives cognitives et conduites sociales* (Vol. 7, pp. 17-40). Rennes: Presses Universitaires de Rennes.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140. Doi: 10.1177/001872675400700202

Galam, S., & Moscovici, S. (1991). Towards a theory of collective phenomena: Consensus and attitude changes in groups. *European Journal of Social Psychology, 21*, 49-74. Doi: 10.1002/ejsp.2420210105

Goethals, G. R., Allison, S. J., & Frost, M. (1979). Perceptions of the magnitude and diversity of social support. *Journal of Experimental Social Psychology, 15*, 570-581. Doi: 10.1016/0022-1031(79)90052-0

Goethals, G. R., & Darley, J. M. (1977). Social comparison theory: An attributional approach. In J. M. Suls & R. L. Miller (Eds.),

Social comparison processes: Theoretical and empirical perspectives (pp. 259-278). Washington, DC: Hemisphere.

Goethals, G. R., & Klein, W. M. (2000). Interpreting and inventing social reality: Attributional and constructive elements in social comparison. In J. Suls & L. Wheeler (Eds.), *The handbook of social comparison: Theory and research* (pp. 23-44). New York: Plenum.

Hastie, R., Penrod, S. D., & Pennington, N. (1983). *Inside the jury.* Cambridge, MA: Harvard University Press.

Kahneman, D. (2012). A proposal to deal with questions about priming effects. (2012, September 26). Retrieved from http://www.nature.com/polopoly_fs/7.6716.1349271308!/suppinfoFile/Kahneman%20Letter.pdf

Kruglanski, A. W. (1989). *Lay epistemics and human knowledge: Cognitive and motivational bases*. New York: Springer.

Kruglanski, A. W. (2004). *The psychology of closed mindedness*. New York: Psychology Press.

Levine, J. M., & Higgins, E. T. (2001). Shared reality and social influence in groups and organizations. In F. Butera & G. Mugny (Eds.), *Social influence in social reality: Promoting individual and social change* (pp. 33-52). Bern, Switzerland: Hogrefe & Huber.

Leyens, J.-Ph. (1983). *Sommes-nous tous des psychologues?.* Liège: Mardaga.

Leyens, J.-Ph., Yzerbyt, V. Y., & Schadron, G. (1992). A social judgeability approach to stereotypes. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 3, pp. 91-120). New York: Wiley.

Lopes, D., Vala, J., & Garcia-Marques, L. (2007). Social validation of knowledge: Heterogeneity and consensus functionality. *Group Dynamics: Theory, Research and Practice, 11*, 223-239. Doi: 10.1037/1089-2699.11.3.223

Miller, N., Gross, A., & Holtz, R. (1991). Social projection and attitudinal certainty. In J. Suls & T. Wills (Eds.) *Social compar-*

ison: Contemporary theory and research (pp. 177-210). Hillsdale, NJ: Erlbaum.

Moscovici, S., & Doise, W. (1992). *Dissension et consensus*. Paris: Seuil.

Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, *89*, 852-863. Doi: 10.1037/0022-3514.89.6.852

Schadron, G., & Yzerbyt, V. Y. (1991). Social judgeability: Another framework for the study of social inference. *Cahiers de Psychologie Cognitive/ European Bulletin of Cognitive Psychology, 11*, 229-258.

Stasson, M. F., Kameda, T., Parks, C. D., Zimmerman, S. K., & Davis, J. H. (1991). Effects of assigned group consensus requirement on group problem solving and group members' learning. *Social Psychology Quarterly, 54*, 25-35. Doi: 10.2307/2786786

Vala, J., Garcia-Marques, L., Gouveia-Pereira, M., & Lopes, D. (1998). Validation of polemical social representations: Introducing the intergroup differentiation of homogeneity. *Social Science Information, 37*, 469-492. Doi: 10.1177/053901898037003006

Vala, J., Drozda-Senkowska, E., Oberlé, D., Lopes, D., & Silva, P. (2011). Group heterogeneity and social validation of everyday knowledge: The mediating role of perceived group participation. *Group Processes & Intergroup Relations, 14*, 347-362. Doi: 10.1177/1368430210377215

Wilder, D. A. (1978). Homogeneity of jurors: The majority's influence depends upon their perceived independence. *Law and Human Behavior, 2*, 363-376. Doi: 10.1007/BF01038988